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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,791	03/08/2001	Nicholas F. Borrelli	SP00-139	8335
7590 11/04/2004			EXAMINER	
Svetlana Short			KAO, CHIH CHENG G	
Corning Incorporated			ART UNIT	
SP-TI-3-1			PAPER NUMBER	
Corning, NY 14831			2882	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,791

Applicant(s)

BORRELLI ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-8,10-13,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-8,10-13,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/24/04 and 10/1/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on June 24, 2004 and October 1, 2004. These drawings are approved.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auzel et al. (US Patent 5858891).

3. Regarding claims 1, 3, and 4, Auzel et al. discloses a glass-ceramic rare earth doped material (Title) wherein at least 90% of the rare earth dopant is situated within crystallites (col. 2, lines 49-51) 10nm or smaller (col. 2, lines 37-41). Note that Auzel et al. would necessarily have stimulated emission and absorption line shapes narrower than its precursor rare earth doped glass, since the dopants within the crystallites would create the sharper shapes compared to dopants outside the crystallites. Also note that Auzel et al. discloses a fiber (col. 4, lines 20-45).

However, Auzel et al. does not specifically disclose a fiber with these material characteristics.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the characteristics of the material of Auzel et al. into a fiber, since one would be motivated to incorporate them to create optimum emissions and amplifications in a laser (col. 4, lines 20-24 and 38-45) as shown by Auzel et al.

4. Regarding claim 6, Auzel et al. further discloses the rare earth dopant as Pr, Er, Tm, or Dy (col. 2, lines 1-6), where dopant level is greater than 100ppm (col. 4, line 28).

5. Claims 7, 8, 10-12, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auzel et al. in view of Ainslie et al. (US Patent 4936650).

6. Regarding claim 7 and for purposes of being concise, Auzel et al. suggests a fiber as recited above in an optical amplifier (col. 4, lines 20-45). Also note that Auzel et al. would necessarily have a stimulated emission profile narrower than its precursor rare earth doped glass, since the dopants within the crystallites would create the sharper profile compared to dopants outside the crystallites.

However, Auzel et al. does not specifically disclose an optical amplifier with an input, a fiber coupled to the input and optical pump, an output, and an optical component between the input and output.

Ainslie et al. teaches an optical amplifier (Abstract, lines 1-2) with an input (Fig. 3, #33), a length of fiber coupled to the input (Fig. 3, #30) and optical pump (Fig. 3, #34), an output (Fig. 3, #35), and an optical component between the input and output (Fig. 3, #37).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the suggested device of Auzel et al. with the amplifier of Ainslie et al., since one would be motivated to incorporate this for better amplification of signals across optical telecommunication systems (col. 1, lines 8-12) as implied from Ainslie et al.

7. Regarding claim 8, Auzel et al. further discloses the dopant as Pr, Nd, Tm, Dy, or Er (col. 2, lines 1-6).

8. Regarding claim 10, Auzel et al. further discloses crystallites as 100nm or smaller (col. 2, lines 37-41).

9. Regarding claims 11 and 12, Auzel et al. further discloses essentially all dopant in the microcrystalline phase and none in the surrounding glass (col. 2, lines 49-51).

10. Regarding claims 16 and 17, Auzel et al. further discloses the rare earth dopant as Nd (col. 2, line 3), which would necessarily have absorption peaks in the 1320 to 1360 nm range narrower than that of its precursor rare earth doped glass and a shift in ESA spectrum in the 1320 nm to 1360 nm wavelength range, due to the dopants being within the crystallites as opposed to being outside the crystallites (col. 2, lines 49-51) and heat treatment (col. 4, lines 30-33).

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11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auzel et al. in view of Ainslie et al. as applied to claim 7 above, and further in view of Arima (US Patent 6217204).

Auzel et al. in view of Ainslie et al. suggests a device as recited above.

However, Auzel et al. does not disclose a filter.

Arima teaches a filter (Fig. 1, #10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the suggested device of Auzel et al. in view of Ainslie et al. with the filter of Arima, since one would be motivated to incorporate it to reduce noise as shown by Arima (col. 1, lines 61-67).

Response to Arguments

12. Applicant's arguments filed October 1, 2004, have been fully considered but they are not persuasive.

Applicant argues that Auzel et al. does not disclose, suggest, or necessarily have the claimed property of stimulated emission and absorption line shapes of a glass-ceramic rare earth doped fiber being narrower than that stimulated emission and absorption profile of its precursor rare earth doped glass. The Examiner disagrees for the following reasons.

Applicants' arguments are based on crystallite sizes, which may broaden emission and absorption line widths. Although this may be true in a precursor rare earth doped glass that contains larger crystallites, these features are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read

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into the claims. The precursor rare earth doped glass that the Examiner is referring to is a glass with dopants outside the crystallites. As implied from the Examiner's above statement, the dopants within the crystallites of the glass-ceramic rare earth doped fiber would create sharper shapes compared to dopants outside the crystallites in a precursor rare earth doped glass. Therefore, Auzel et al. would necessarily have the claimed property of stimulated emission and absorption line shapes of a glass-ceramic rare earth doped fiber being narrower than that stimulated emission and absorption profile of its precursor rare earth doped glass, and at least claim 1 remains obvious and unpatentable over at least Auzel et al.

Applicant further argues that the prior art does not disclose glass ceramic fibers with the claimed property, nor suggest that it can be done. Applicant alleges that one does not make a fiber by a molding process and making such a fiber does not work. However, Applicant has not provided objective evidence supported by an appropriate affidavit or declaration. Mere allegations cannot take the place of evidence.

Furthermore, the Examiner disagrees for the following reasons. Making a fiber by molding can be done by molding the core first to the desired shape, and then molding a cladding around it. By melting to a temperature that one used in creating the glass material, the material will be fluid enough to mold and cool into a core. Then, a cladding can be molded around the core to create the fiber. Thus, making a fiber with the claimed properties can work.

Applicant further alleges that drawing fibers would precipitate more crystallization and create bigger crystals. However, Applicant has not provided objective evidence supported by an appropriate affidavit or declaration. Mere allegations cannot take the place of evidence. Regardless of whether drawing fibers may or may not create bigger crystals, making a fiber with

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the claimed properties would still have been obvious, to one of ordinary skill in the art, with a process such as molding.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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